PAG ITEM UN5GHZ - U-NII devices authorized in- U-NII-4 band 5.850-5.895 GHz This is a variant model of FCC ID A3LSMF946U (MPAG KDB 584335) and the test report is reusing the data for the lead model. The report includes spot check measurements to justify data reuse.		
Pag checklist item	Exhibit Category	Additional details
EIRP	Test Report	EIRP was measured for channel power and PSD for channels fully or partially contained in the UNII-4 band. For straddle channels they measured conducted output power and PSD. For bands either partially or fully contained in the UNII-4 band the radiated power is calculated by adding the effective directional antenna gain to the conducted power. Power measurements for the non OFDM-A modes are on page 45 through 49 of the report ***4790841160-E8V3 FCC Report UNII[a,n,ac,ax] WLAN_Part1***. Data for the OFDM-A modes include measurements for different RU allocations and are on pages 55, 57, 62, 64,67-68, 70-71. The results tables include the conducted power / PSD, the antenna gain and the corrected EIRP value. The grant conditions will confirm that the listed powers are conducted for UNII 1, 2A, 2C and 3 and EIRP for UNII-4. We will use the grant note EP for those line entries.
1. Antennas .	Internal photos, Operational description, test report	*1.1 Information for all the antennas, i.e., type, gain and relative positions within host, must be included in the filing* See internal photo exhibit, operational description exhibits ***A3LSMF946JPN Antenna Distance_230520*** and ***A3LSMF946JPN Operational_Description_WLAN_0707***
	Test Report	*1.2 Show how the (aggregate, if applicable) antenna gain was computed/measured, including equation(s) used to calculate Directional Gain and provide example calculation showing how the DG was calculated with the antenna gain of individual antennas. Provide details (references or attached documents) on how the individual antenna gains were derived, i.e., declared by the host manufacturer, based on data sheet, or measured.* Antenna gain values are provided in test report exhibit **A3LSMF946JPN Unlicensed Band Antenna Gain_0710**. MIMO antenna gain calculations are provided on page 15 section 5.2 of the report ***4790841160-E8V3 FCC Report UNII[a,n,ac,ax] WLAN_Part1.***
	Internal Photos	*1.3 Indoor devices shall have an integrated antenna* Antenna is integral to device – refer to internal photos etc.
2. Labelling	Label and User Manual	Label showing “Indoor Use Only” for Subordinate and APs. Not applicable, this is a client device.
3. Band Edge Measurements	Test Report	*3.1 Band Edge measurements made below 5725 MHz are to be made with a Peak detector*. Refer to e.g. page 25 of ***4790841160-E8V3 FCC Report UNII[a,n,ac,ax] WLAN_Part2*** (page 103 of 154 in report page numbering) showing peak measurements complying with the mask / out of band limits and there is only a peak limit being used (peak limits slopes down to -27dBm/MHz) *3.2 Band Edge measurements above 5895 MHz are to be made with an RMS detector.* *3.3 Band Edge measurements above 5895 MHz should also include Peak plots to show compliance with 15.35(b) where the peak emissions must be limited to no more than 20 dB above the average limit.* Refer to e.g. page 29 of ***4790841160-E8V3 FCC Report UNII[a,n,ac,ax] WLAN_Part2*** (page 107 of 154 in report page numbering) showing a plot with discrete rms measurements complying with the mask’s rms limits and the plot clearly shows compliance with the mask’s peak limit.
4. Declaration Requirements	Attestation Letter	*The application should contain a declaration letter which satisfies the declaration requirements from Section 3. of KDB 291074 D02.* Refer to attestation letter **A3LSMF946JPN UNII-4 Attestation letter_0626** for the grantee attestations as required by KDB 291704.
5. Indoor Device Limitations	Not applicable	
6. Modular Certifications (when applicable)	Not applicable	
7. Security	Software description	*Provide specific exhibit with device security description is required (complying with 47 CFR § 15.407(i).* Refer to exhibit ***A3LSMF946JPN U-NII Device SW Security Statement 0626***
8. Spurious Emissions	Test report	*Show that measurements are made at the prescribed antenna heights, per KDB Publication 291074 D02, including measurements along all three axes, as per ANSI C63.10.* Refer to section 5.4 on page 16 for confirmation that X/Y/Z orientations were tested. Page 88 of the report (page 10 in ***4790841160-E8V3 FCC Report UNII[a,n,ac,ax] WLAN_Part2***) confirms scan height of antenna was 1 – 4m (note that since the device is small and tested in 3 axes the height required above 1GHz is 1 - 2.5m).
9. Hearing Aid Compatibility	- Not applicable	

U-NII devices authorized in U-NII bands 5.925-7.125 GHz (Wi-Fi 6E), PAG ITEM UN6GHZ, Equipment Code 6CD This is a dual client device requesting approval under equipment code **6CD**. This is a variant model of FCC ID A3LSMF946U (MPAG KDB 584335) and the test report is reusing the data for the lead model. The report includes spot check measurements to justify data reuse.	
Attestation Letter	Refer to attestation letter **A3LSMF946JPN 6CD FCC Attestation Letter_0626** for the required grantee attestations.
Label	This is a client-only device, Indoor Use Only warning is not required
Internal Photos and/or External Photos Test report	**Antenna Gain information** Refer to internal photo exhibit, operational description exhibits ***A3LSMF946JPN Antenna Distance_230520 and A3LSMF946JPN Operational_Description_WLAN_0707.*** Gain information can be found in the Test Report exhibit **A3LSMF946JPN Unlicensed Band Antenna Gain_0710**. The Part 15 test report uses the appropriate values from the antenna test report exhibit.

Test Report	Test report exhibit ***4790841160-E9V3 FCC Report UNII[6E] WLAN_Part1*** through ***Part6***
	• PSD meets 15.407(b)(6) – section 10 starting on page 32. PSD EIRP is calculated from conducted power plus duty factor plus EUT antenna gain (directional gain). Plots for highest values are provided in section 10.1.6 (page 65)
	• Mask based on Full RU for 802.11ax / OFDMA. Partial RU also tested. Top of mask adjusted to top of signal – section 10.2 page 70, plots start on page 71 in part1 of report and continue through part 2;
	• RBW used for mask was 1-5% of 26dB bandwidth (e.g. 200kHz for 20MHz channel, 400kHz for 40MHz channel etc). This is acceptable as it is >= required measurement bandwidth.
	• Width of mask based on the 26dB bandwidth;
	• 99% bandwidth contained within the allocated band for indoor operations page 27 (tabular data starts on page 31);
	• 99% bandwidth contained within the allocated band for outdoor operations page 27 (tabular data starts on page 31);
	• Spurious emissions:9
	  ○ Correct antenna height range used per ANSI C63.10 - page 138 of the report (page 18 of Part 5)
	  ○ Tested in X/Y/Z orientations consistent with intended installation / use - page 13 of the report (which also explains the devices was tested in three configurations – a foldable phone tested completely opened, completely closed and half-closed) and also test set up photos exhibit ***A3LSMF946D_Appendix - Test Setup Photo_Unlicensed Band***.
	• MIMO devices – the antenna gain calculations to determine aggregate gain are in section 5.2, page 12 of test report. The report includes the formula used and a sample calculation.

Test Report	**CBP -** test report exhibit ***4790841160-E9V3 FCC Report UNII[6E] WLAN _Part6*** starting on page 156 (page 17 of the Part 6 pdf file)
	• Performed on one channel in each sub-band of operation for both narrowest and widest bandwidths - page 162 (page 23 of pdf)
	• 10 MHz wide AWGN signal is used - page 159 (page 20 of pdf)
	  ○ 160M9Hz channel tested with three different AWGN signals at lower, upper and center of channel – page 162 (page 23 of pdf)
	• **Detection threshold adjusted to consider lowest gain antenna**
	  ○ MIMO device – detection threshold is evaluated based on lowest gain antenna value for all chains
	  ○ Report includes calculation showing the Required Detection Level = Injected AWGN Power (dBm) – Antenna Gain (dBi) + Path Loss (dB) – this is embedded into the table which calculated the detection limit at -62.0dBm + antenna gain and antenna gain is also included in the table.
	• Lowest detection level is reported for each test – see table on page 162 (page 23 of pdf) showing minimum detection level, point at which some detection occurs and point at which no detection occurs.
	• Test is performed by starting at a level much lower than required detection level and then increased - page 157 (page 18 of pdf) step 6 of the procedure.
	• Plots showing device stopped transmitting - page 160 (page 21 of pdf)
	• Channel puncturing / bandwidth reduction: Not supported

Attestation Letter	**Client Device** Refer to attestation letter **A3LSMF946JPN 6CD FCC Attestation Letter_0626** for the grantee attestations as required including: • Confirming that the device will not connect directly to other clients and does not have its own direct internet connection. • Device can only operate under the control of a low-power indoor access point and subordinate in all bands. • Only operating at standard power levels when connected to an outdoor AP and setting power to 6dB below the AP power (see also **A3LSMF946JPN WiFi6e_Power adjustment letter_0626**).
External Photos and Operational Description	**Limitations for indoor AP / subordinate device** Not applicable – this is a client device.
	Modular device Not a modular device – not applicable.
RF Exposure exhibit	**RF Exposure** Classification is portable. This is consistent with intended use. Simultaneous transmissions with other co-located transmitters is addressed in SAR Part 1 report and total exposure ratio remains < 1.0.
Software description	Refer to exhibit ***A3LSMF946JPN U-NII Device SW Security Statement 0626***